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# THE ELEMENTARY SCHOOL TEACHER

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## COLONEL FRANCIS W. PARKER

### AS INTERPRETED THROUGH THE WORK OF THE FRANCIS W. PARKER SCHOOL[1]

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Principal of the Francis W. Parker School

Many times in the past nine years I have been asked to speak of Colonel Parker to the parents, and now that you have come here expecting to hear about him, I fear that many of you will go home disappointed—not knowing the things about him that you hoped most to find out. My one comfort is that I believe I should have the approval of Colonel Parker himself in the plan I am going to follow, that of trying to interpret him to you through the work of this school—or, rather, through those parts of the work inspired by him, concerning which there seems to be the most question.

We are moving forward, albeit very slowly, along the path which he blazed with such difficulty. Before us shines the same goal. We shall not reach it—your children will not reach it—nor your children's children. We shall be content if we can clear the path a little for those that follow.

In so far as our work is being well done, we believe that your children can teach you, better than any word of ours can do, what Colonel Parker stood for in education. In this school we are not following his methods or devices—at best these are only suggestive to us—but we are applying, as best we can, the principles which governed his educational work.

[1] Paper read before the Parents' Associations of the Francis W. Parker School and of the School of Education of the University of Chicago.

As nearly as I can interpret it, his working hypotheses were:

The needs of society determine the work of the school.

The supreme need of society is good citizenship.

Ideal citizenship demands of the individual the highest degree of knowledge, power, and skill.

The one purpose of the school is to present conditions for growth into ideal citizenship.

Expressed in the simplest language, the educational principles which Colonel Parker used, and which I have selected as those most needing discussion tonight, are the following:

*Self-activity* is the law of growth.

The strong, vivid, growing *image* is the most potent factor in the learning process.

The *apperceptive process* is the natural process of widening experience.

*Interest* is the root law of attention and educative effort.

*Habits* are the sure result of oft-repeated mental or physical acts.

The *social motive*—the feeling that a certain thing is worth while to an individual, a group, or a community—has been fundamental in all human development.

Social motives generate social interests and result in intelligent social service.

*Freedom* must be balanced at each step by *responsibility*.

*Satisfaction* and *joy* in good work are positive essentials in the educative process.

These principles, which later I shall ask you to consider again, did not originate, as you know, with Colonel Parker. He saw what their application would mean in the education of children, and they became his own in a creative sense. It is our hope that they may become ours in the same way.

Before speaking of the work in the school, I wish that I might bring before you the personality of this man, in all his courage and strength—yet I, who loved him as a father, and as a close friend, and who have him before me as a living influence every day, find that I cannot separate him from his work. He was, in a sense, completely lost in it—in his love and enthusiasm for it.

His personal energy was like some impelling, vital force, which accomplished miracles. Teachers worked—yea overworked—gladly under his inspiration. They undertook seemingly impossible burdens, and carried them successfully. They shook off the shackles of years of habit, and self-consciousness, and became free.

They did not do this for Colonel Parker, but because of the feeling of responsibility which he awakened in them. I could give many illustrations of the vigorous means which he used in arousing his associates to action—perhaps you will forgive me for two or three from my personal store:

For instance, I remember when, over twenty years ago, I first began to teach with him in the Normal School. I was young and ignorant, and overawed by the faculty. I went to him and told him that I must resign if I had to speak in the weekly faculty meetings. He said:

"I suppose *you think* that feeling arises from humility and modesty. But it doesn't. It comes from selfish pride—you are not willing to make mistakes."

"But," I said, "surely I cannot say anything that it will be of use for them to hear. Let me wait until I know more."

"No," he said, "probably what you say will not be worth much—but 'out of the mouths of babes and sucklings'—it is only through *expression* that growth comes. Make what you have to say worth while. If you are not willing to do this now and always—*to grow*—you may as well resign now."

At another time, I remember, he came into the schoolroom, and after looking at a piece of work which I considered particularly satisfactory, he said:

"How can you allow children to do that? I wish you would explain it to me."

I went to him, somewhat indignant at the question, and told him what I thought it would mean to children.

He smiled and said, "You have a good partial reason, but there is more to it," and he went on to explain clearly to me the benefits of that type of work.

"Then," I said, "why did you speak about it as you did? Your question made me think that the work must be wrong in your eyes."

"Because," he said, "I want you to learn to be sure enough that what you are doing is right, so that no *mere question*, however stern, can shake your conviction."

In dealing with children, his sense of humor and his habit of

emphasizing the positive principle always won their respect and co-operation.

For instance, if the boys on the playground had been rude, or the girls inconsiderate, he might call them together, stand before them for a minute with a shrewd twinkle in his eye, and say: "*Ladies* and *Gentlemen:* Am I *right?*"—and then he would say a few positive words about what true courtesy means in life—and I never saw his counsel fail in its influence upon them.

He had the great gift of making teachers see the glory and the responsibility of teaching children.

To this I can bear abundant evidence. For many years, at Colonel Parker's request, I did each year at least a month's institute work in different parts of the country—in northern Michigan, in the southern states, in California and Rhode Island—and everywhere I was welcomed enthusiastically because I came from Colonel Parker's school—everywhere I found teachers working under heavy handicaps, trying to carry out the ideals which his inspiration had given them. He had the vision of the seer, and the rare power which enabled him to lift the veil for others. The rest followed by natural law, for as Emerson says:

> The lethe of Nature
> Can't trance him again
> Whose soul sees the perfect
> Which his eyes seek in vain.

No one grew conceited or self-righteous under Colonel Parker's searching eye. His keen wit and biting sarcasm were weapons always ready for use. But it was his abiding love for children, personal, genuine, tender, sane, which made us love him. He searched with an eye single in purpose for what was best in them, accepting nothing less than that, making no compromise with expediency, and his intuition concerning them seemed almost divine, so quickly could he scent an influence or tendency harmful to them.

No one yet has written the life of Colonel Parker. We do not know who will do it—but it is written in educational achievement all over the land. It would not trouble him that this work does not bear his name. All the literature that we have pertaining to

his life we will gladly share with you, but there is little of it. All that we have in pamphlet form is Mr. Louis J. Mercier's[1] paper given at one of the parents' meetings; a most satisfactory sketch of Colonel Parker's early life, of his boyhood, of his struggles, of the unswerving purpose which governed his life to the end, and it shows us something of his general educational theory.

Mr. Willard S. Bass[2] has outlined, in pamphlet form, a brief story of his life as a soldier. In the Memorial Number of the *Elementary School Teacher*, published soon after his death, we have the points of view of many educational experts—of Dr. G. Stanley Hall, of Dr. John Dewey, of Nicholas Murray Butler, of the great Jewish rabbi, Dr. Hirsch, and the equally well-known Catholic prelate, Bishop Spalding. They speak of him both as a man and as an educator, and they can give you, much better than I do, an idea of his importance in the educational movement in America.

I wish, also, to refer you to an article by Mrs. Emmons Blaine, given in the form of an address at the dedication of the Chicago Normal School. To me, this is the most satisfactory word ever written about Colonel Parker. I wish that she might be prevailed upon to give it to you as a part of this series of discussions upon Colonel Parker's life and work.

And now, after these few words, in which I realize I have failed utterly to add anything of value to your conception of Colonel Parker, I will ask you to consider more in detail some of the things in the theory and practice of this school which have come to it through Colonel Parker's inspiration.

Let us consider the first principle—*self-activity* as the law of growth.

In a school where self-activity is a dominant factor, where it is realized that the active side of education precedes the passive in child-development, much of the routine work, much that is traditional and conventional in school practice, must be excluded. In such a school, children will ask many questions—the work will stimulate them to question.

[1] Mr. Louis J. Mercier, Harvard University; formerly head of French Department, Francis W. Parker School.

[2] Mr. Willard S. Bass, teacher in Chicago Institute under Colonel Parker, and for several years head of Science Department, Francis W. Parker School.

Yet in hundreds of schools, even in this city, a question from a child concerning his work is a quite unheard of thing. It is a matter of course that the teacher will ask the questions. The child is aggrieved if he cannot find the answers ready-made in his book.

A few years ago, in a great school in New York, I watched thousands of children take out their books, open them, and begin to study at the count of "one, two, three." They lifted their slates, poured on the water, erased their work, again to count; they marched to place, stood in line, took position, read, spelled, or repeated the multiplication table, and returned to seats. All worked as smoothly as a high-power machine, and it was the proud boast of the supervisor that she could go into any schoolroom of a given grade at a given hour and find the children working upon exactly the same lesson, using the same methods. This statement is not exaggerated. But this is an exaggerated form of an evil that can be found in many schools today. What outcome could be expected from such routine work for *six hours daily* for *years?*

If *self-activity* is the aim, children may not be herded together for long hours under unnatural conditions. They may not be repressed by authority into continued parroting of answers learned from books. Little children, whose law of growth is action, may not sit with folded hands, always under the eye of a guard.

They must be gotten into contact with Nature and with life materials. They must question and experiment, using all their sense organs freely. They must play and work under good incentives, and grow into habits of initiative and independent thinking. They must reason and measure, judge and select for themselves, means to definite ends. In other words, they must choose, make mistakes, and grow. Results in children's work must be considered *good* only in so far as they represent genuine growth and achievement.

We believe it has been proved that routine methods do not produce the efficient—the socially efficient—human being.

When children had real experience and activity in the home, on the farm, and in the household, it was legitimate to restrict the school activities to drill, but it is not so today, and in the immediate past the docile children, who have submitted to machine methods,

whose names have shone on the school "Roll of Honor," have not taken the same high places in the world's list of useful human beings.

Is it not true that the restless ones, the ones who have refused to meet such school conventions placidly, the ones who have broken away from school restrictions, who had initiative and interest outside the school, are the leaders in the world's work today? And I believe that unless there is a change, more and more of our youth will leave school at the eighth grade.

Poor, indeed, are the opportunities which America offers to these boys and girls of fourteen, even to those of eighteen, who do not care to go to college. But that chapter of education does not belong to this discussion.

All of this means, not only radical changes in current school practice, but also in our ideals, as parents, of what activities should go on in our schools.

Children, perhaps, cannot cover ground in reading, writing, and number as rapidly in a school where self-activity is emphasized as in one where all the hours of the day are devoted to one small area of the brain—known as the language center—but we believe there is economy, in the long run, for reading, writing, and number have a vital purpose in their lives from the first day in school onward.

We believe it is necessary to recognize and use all that is good in the old system of education. A child must learn to spell according to the social demand; to memorize pivotal dates; to know where important places and routes of travel are upon the earth; to manipulate figures correctly. These facts and tools deserve and receive much time and attention, but they, in themselves, are not the ends which we seek.

Under this principle, then, the problem of this school is to fill *twelve of the formative years* of the children's lives with types of work demanding *self-activity*. And with only our ideals and what we know of the child to guide us, this is no small undertaking.

Our second principle is that "The strong, vivid, growing *image* is the most potent factor in the learning process."

If mental imagery is to be strong in our children, all the avenues of sense impression and expression must be open and in continual use. This is particularly true in the lower grades, but the principle

holds for the older children. It is not well understood by all the parents that we in the Francis W. Parker School hold ourselves responsible to the *child* for his use of all his natural avenues of expression.

Many times, even this year, parents have come to us, and asked to have the children excused from singing, saying that the child had no voice and never could become a singer. In this school no child is excused from singing, unless for exceptional reasons. Why? Because it is the *whole* child that we are interested in—that we are trying to educate. He may never become a singer—if he does become one it will be after years of technical work, which we do not pretend to give him.

But we expect him, in the twelve years here, to get an appreciation of good music; we intend that this key to his higher emotional life shall be turned; that this avenue of his soul shall be kept open. Feeling this responsibility, you will understand that we may not lightly excuse him from singing.

Again, music is one of the great agents of unification, as it is used in morning exercises—one of the chief factors of our community life.

Parents have asked also that children be excused from art—because it is not "practical." It is true that we cannot make artists here, but are we sure that this medium of expression as used in the school is not practical? It is a medium which teaches the child to observe and represent correctly what he sees, and surely this will be valuable to him in almost any phase of his life.

In painting a landscape as it appears at different seasons of the year, the mere holding of the image long enough to paint it allows the color and form and beauty of the landscape to act directly upon the child, and there is almost universal response from the child to such influence. A given landscape, which he has attempted to represent once or twice in each season of the year, gives him unconsciously the mental imagery which enables him to interpret and enjoy other landscapes. He recognizes differences and likenesses and searches for causes—answers to his own self-raised questions. If "*practical*" be defined in terms of "*return for output*," I should say that this form of expression is one of the most practical exercises in the school.

ILLUSTRATION

You have all seen paintings and drawings made by children from the kindergarten through the high school. In the early grades the child draws what he knows, not what he sees. You are familiar with the way a little child draws the inside and the outside of a house at the same time; of how he puts both eyes in a face in profile. He knows that both eyes are there, so he puts them in. Then comes the era of careful observation and study, which belongs to the middle grades, the period of learning to express what he sees, the gaining of skill and technique. With the amount of time we can devote to this work, he cannot get great skill, but he can get a recognition of the principles of correct seeing and representation. In the upper grades he can use his *knowledge* with much the same freedom with which he uses his *fancy* as a little child, and we have such a result of creative imagination as we see in the sketches of high-school pupils.

What the child gets in the elementary study of design, both realistic and conventional, enables him to catch a glimpse of its significance in all relations. He sees its principles applied in the best and most beautiful creations in his environment. It is hoped that his taste, thus aroused, will result practically in later life in civic responsibility, in an effort to get better and more beautiful conditions in life for himself and his associates.

With a few exceptions, however, such as are referred to above, we believe that, on the whole, the parents sympathize with the efforts which the school is making for strong mental imagery; also with its emphasis upon the fact that there is little impression without some form of expression.

This brings us directly to the discussion of the third principle —the *apperceptive process* is the natural process of widening experience.

If we attempt to emphasize in our work the use of the *apperceptive process*, we at once see that a meager experience means stunted growth, since a child can take out of work only a greater measure of what he takes into it. This principle, important as it is, has relative rather than intrinsic value, since to widen and increase uneducative experience is as useless as it is common in

school practice. The basis for our emphasis of this principle is therefore that we aim to organize the school so that not only will it give each individual a rich and varied experience, but that in it he will be stimulated daily, through his own efforts, to widen, deepen, and interpret that experience. In it, we believe, he must work along the general constructive lines which have brought civilization into being; he must perform those fundamental types of activities which have made civilization what it is.

Our city homes cannot supply, if they would, a sufficient foundation of actual experience to generate in the child, fully, the sense of duty and responsibility which arises naturally from doing a piece of good work.

Many people believe that the child is living completely in his home, and rest upon the fact that that is the natural form of community life—but the school has left it few hours of the day. We believe that the school should be made a model social unit; that in it, too, the child should live happily and completely—in this larger form of community life, which should represent the social life of the day in simplified form. The school should be linked to the home on one side and to society on the other, so that the child's development shall be one line of continuous growth into citizenship.

Because of this demand for actual experience, as a basis for the widening of experience—for growth—we insist that every member of this school shall attend the school field trips and industrial excursions. During the school year these excursions offer almost the only means of getting the pupil into direct contact with Nature, of questioning it under supervision, so that he may understand the laws and forces which are active in the world.

In this Chicago environment we have typical landscapes which enable the child to interpret the world beyond his sense grasp. We have the sand dunes, the lake shore, the swamp areas, the glaciated regions, and also many industrial processes and institutions. These, together with the child's own manual activity, we believe should precede his book work in connection with them, if they are to be truly educative to him. Second-hand knowledge and memory work concerning things of which he has no *experience* or *imagery* is time wasted.

The fourth principle: *Interest* is the root law of attention and educative effort.

The school owes it to the parents to make its position upon the question of *interest* clear.

In schools where interest is discounted, where children are being "disciplined" for life, do we find interest really lacking, or is it only a different stimulus to interest that we encounter?

It seems to me that the latter is true. There is interest wherever and whenever there is effort. It may be interest in reaching the highest mark at any cost, or it may be interest in escaping punishment, but we venture to say that where we fail in the matter of interest is not in arousing it excessively, but only in directing it wisely. It is only under the stimulus of interest that the child will drudge sufficiently to get the discipline which is rightly deemed so essential.

I cannot resist saying another word upon the native interests of children. We meet much criticism constantly upon this subject. We hear that we are a "play" school; that we simply try to amuse the children—to find out what they want to do and do it. If this were true, the criticism would be just, of course. But no thinking teacher merely follows the native interests of children. She recognizes as far as possible what the native interests of children are —they are symptoms to her of a stage of development; she uses them and brings them to the higher plane of acquired interests.

As you know, among the native interests of children are interest in food, interest in play, interest in sound, in color, in movement, in rhythm, and in counting; and we could name a list which would include some of the natural interests which come later in life, such as the interest in collections, interest in nature, etc. All of these interests are founded upon certain primary needs and instincts of the race. They are the natural responses to given stimuli. These responses in themselves are not educative beyond a certain fixed limit.

A child in the first grade is just as happy pounding nails into a board as he is in using nails to make something. He loves the noise and he is active. This is satisfaction enough for him. The activity is an end in itself at this stage of his development.

But if the teacher is wise enough to use this interest in having him use his nails and his hammer in making a box or a wagon for some real purpose in the school, this interest in mere activity is lifted to an interest in construction, which is upon a higher plane.

In this change from native interests to acquired interests, the truly educative process—the disciplinary process—the control of the will—comes in naturally and rightly.

In pounding the nails there is spontaneous attention, but the child is a prey to the next stronger stimulus. There is no *imaged result* to sustain his attention. On the other hand, when he is making the necessary box, there is an end to accomplish.

This usually means a period of active attention, a time of struggle against the desire to do something else. This holding to the matter in hand by a pure effort of will is against nature, against the tendency to follow the line of least resistance. The skilful teacher knows that this period of active attention must be short at first, but the demand for it should continue systematically and steadily until the child himself sees the value of the results of sustained attention, and learns himself to control it.

It is the teacher's function to see that there is a constant evolution of old interests into new interests upon a higher plane. That is, the pupil sees that the new problem presented is worth struggling for, and attention soon becomes again spontaneous; the child is again absorbed in the idea, and drudgery is willingly undertaken for the sake of the end to be attained.

This secondary stage of spontaneous attention is more educative than the first, because it is more intelligent. The child is learning to subject his impulses and desires to the control of his will, and thus is at the beginning of his training in self-control, which you will agree, I think, is the thing most needed in society today.

The fourth principle states that *habits* are the sure result of oft-repeated mental and physical acts.

The truth of this principle is perfectly obvious, yet I believe that we might profitably discuss for a whole evening the school practice which is based upon the formation of good habits. In the light of this principle, it is clear that routine and machine methods cannot result in habits of initiative and independent thinking. It is

equally true that repetition—drill—is the chief factor in habit formation.

The art of teaching lies in the functioning of good habits, and the different types of work—the so-called thought and drill work—must be balanced with reference to that end. Perhaps some of you may think that this school is not yet quite perfect in this balancing—in the art of teaching.

Be that as it may, if we take a step further and agree that "emotion is the reflex of action," we shall get the significance of school practice in our moral life, namely, good actions repeated will produce good habits, which in turn will induce good emotions.

This seems to me to be the only sure protection which we can give to our children. If we can build up in them a body of good habits, with their corresponding emotions, we need not fear for them when they meet temptation, for *habit*, reinforced by *feeling*, inevitably determines choice of conduct.

The fifth statement of principle is that the *social motive*, the feeling that a certain thing is worth while to an individual, a group, or a community, has been fundamental in all human development.

It is in the application of this principle that the school differs fundamentally from current school practice. To have the work which the child does worth while in his own eyes, because he sees some purpose for it and some value in it, either to the group, or to the community, is a dominating principle in our school which needs full illustration. It does not mean that systematic drill shall be lacking. On the contrary, it means that the child grows to welcome drill as a means of overcoming obstacles which lie between him and his goal. It is the teacher's duty to see that growth is systematic; that there are no gaps in the child's progression from grade to grade to impede his growth.

If we want a child to use all his energy and effort, we must give him ends to work for which seem to him worth while. His goals will not be great ones, perhaps, but they must be of sufficient educational value to be intrinsic parts of the teacher's larger aim.

If a school takes away from children artificial incentives to work, it is responsible for the supply of wholesome natural stimuli to take their places. For example: the school expects *nature-study* to do

a certain definite work for children during their school life, but a child cannot understand this general aim of the teacher. He has a right to small concrete ends which give him satisfaction at each step.

ILLUSTRATIONS

*First Grade.*—Each child in the first grade modeled a clay bowl for his mother's Christmas present. In it was planted a narcissus bulb, which was expected to bloom about Christmas time. While the work was in progress the teacher wrote the child's observations upon the blackboard and edited them for printing—thus making the so-called "First Grade Reading Leaflets," which in this instance state that the child planted several bulbs, some of which he placed in the dark and others in the light; he noticed the growth in each case and tried different conditions of soil and water. Later, he visited an expert in bulb planting, and followed his advice. Finally, after making his bowl in the hand-work periods, he found great satisfaction in this blooming plant. During this process, if he had been asked to tell what he was learning, his probable answer would have been that he was trying to get a plant to bloom by Christmas time. All his experiments were only means to an end which he wanted to reach. The teacher's satisfaction, however, lay entirely in the growth that she found in the child himself as an outcome of this work. She was conscious of all the steps and each had its definite part to perform in using and widening the child's experience.

Another example of working under a social motive is that of making a border of oak leaves upon a curtain for the dressing-room door of the first grade room. The children did little work upon the curtain itself, but much work under its stimulus. They looked at the borders of curtains at home; they went to the park and gathered nuts and berries and arranged them in border patterns; they went to all the trees with which they were becoming acquainted—the maple, oak and willow—and gathered the prettiest leaves. Again the reading leaflet record describes their work, indicating how the patterns were cut, how the colors were chosen, how the leaves were arranged, how Adrian's arrangement of the oak leaf was chosen, how the stencil was cut by sixth grade pupils from the pattern, and, finally, how the actual work of painting, with hot dye, through the

stencil upon the curtain, was done. Again *their* satisfaction was found in the finished product as it hung before them daily—a piece of good community work which stimulated them to future efforts and recalled pleasant experiences.

You may ask concerning the children's power to read these leaflet records. I would answer that we may not call the child's effort in this direction "reading" at all, at this stage. He is simply gaining a vocabulary. In connection with each piece of work he functions from ten to twenty words. These are the words which he will use over and over again during the year. For instance, in our last illustration these would be such words as "oak," "maple," "leaf," and the ordinary idiomatic words. These words are placed in his dictionary for reference and use. The first grade reading book is made up of many such centers of work; the lessons are printed in the school print shop, to supplement the work in literature, in science, in industrial history, and in construction. In this way the child should gain a vocabulary of about 300 words during the year. These words he will function; that is, he will not only recognize them, but he will be able to spell and to write them. Moreover, if the work has been rightly presented, he has established a correct attitude toward reading. He believes that books contain all sorts of useful information and good stories and he wants much to learn to read them.

*Second Grade.*—In this grade the "Industries" chosen for a year might be harvesting and milling, cloth making and lumbering. The children would find significance in the first topic chosen from the fact that they will be harvesting their own school garden crop; in the second, on account of the wide opportunity it offers for satisfactory manual activity, and in the third for the use they can make of such knowledge in the shops. We might select here as our example of a wholesome incentive to work their experiments in cloth making. In this work the children might weave rugs for the doll house in the first grade, or iron holders for their mothers, or they might weave some other article which seemed worth while to them. For this purpose they would card, spin, wash, dye, and weave their own yarn, and while this manual work was in progress they would be told stories of Arab shepherds, and be given descrip-

tions of deserts; they would have stories of Greek shepherds, with descriptions of Greek landscape; they would notice the difference between farm land and grazing land; they would have stories of Hebrew shepherds, and poems about shepherds; they would visit the Hull House Labor Museum, and have experiments in the making and using of dyes, and in the making and using of primitive spindles; they would examine pieces of beautifully woven cloth and have stories of tapestries used in old castles and of oriental rug weaving; they would visit the textile room in the Field Museum, and experiment in printing patterns on cloth, in sewing and cross-stitching bags and other articles; they would observe the characteristics of the hairy coverings of various animals, and give brief consideration to different typical textile materials.

In the "Second Grade Reading Leaflets" they have perhaps thirty reading lessons upon "Shepherd Life" as a background for this work. These seem to me so ideal as types of reading matter for children of this age that I wish you might read every one of them. Some of the titles are: A Shepherd's Life, A Shepherd's Village, A Lost Sheep, The Story of Giotto, A Persian Dyer, A Persian Weaver, A Rug Fair, Navajo Weavers, Navajo Designs. The following is one of these reading leaflets:

A LOST SHEEP

A shepherd stood on the mountain-side.
He was counting his sheep.
One was gone.
Across the valley was another mountain-side.
Here was another shepherd with his sheep.
The first shepherd called across to him.
He had to call very loudly and slowly, because it was far away.
He said, "I have lost a sheep. Is he with you?"
"I will see," called the other shepherd.
He counted his sheep.
There was one too many.
Now, all sheep look very much alike.
How could he tell which one was not his?
The sheep all had their heads down eating.
The shepherd gave his call.
All his sheep knew that call.
They raised their heads.

But one sheep kept on eating.
The shepherd shouted, "Yes, I have one strange sheep."
Then the other shepherd gave his call.
It floated softly across the valley.
The strange sheep heard it and lifted its head.
"He is yours," called the man who was watching.
Then the other shepherd left his dog to guard his herd.
He came across the valley and got his lost sheep.

This illustrates the point that the sentences are short, the imagery vivid, the words not at all difficult. Compare this, if you will, with the ordinary second grade reading lesson. At one time in the primary grade I made a careful classification of the words necessary to function in connection with our work in construction, literature, history and science, and I found there were something over 400 words necessary for the year. I did the same thing with the vocabularies of the Harper's *First Reader* and the Barnes's *Reader*. In each case the vocabularies were less than 500 words. And there was very little difference in these lists, what there was being found in the *nouns* and *adjectives*, and a few verbs which we needed to use on account of the activities of the children, such as "weave," "dye," etc. The point I am endeavoring to make is that the difference in the two types of work lies not in the demand for reading and spelling tools, but in the vast difference, as I see it, in the influence exerted upon the children by actual experience and expression, which we hope our type of work supplies.

*Third Grade.*—An example under this principle is found in the children's book containing their "History Stories of Early Chicago." This is an ideal center of work for third grade from every standpoint, and especially in its demand for the various kinds of manual activity and in the child's feeling that the work is worth while. Chicago's history is so short that the industrial cycles in it can be traced and understood by children. That is, they can compare through actual experiment or observation the primitive ways of *lighting* with those used at present; the primitive ways used by Chicago people a little over a century ago for getting their *drinking water*, with those used at present; the primitive ways of *transportation* with those now in use.

In this history book made by the third grade pupils, the teacher

has for each child not less than one hundred photographs, made by herself, tracing the history of Chicago by pictures and maps from the time it was a swamp through many of these industrial cycles. Compare the work in this book with the kind of language work that children do ordinarily in the third grade; that is, notice carefully what the children have written under the picture of "Chicago as It Looked One Hundred Years Ago," and on the pages showing the various swamp birds that lived here, and on the topics concerning Indian life, or old Fort Dearborn, or the way the Chicago River used to turn, or the way it turns now, and the description of their maps. If you are determined that your children shall learn in school nothing but *reading*, *writing*, and *spelling*, which type of work do you think would produce the best results? Would not the child's interest and his feeling that this book is worth while react upon his attention and effort in such a way that even the formal results must be better? Of course, the spelling will not come by nature, and he will have to have drill upon the words which he uses in this way; he will have to be taught how to capitalize and punctuate his sentences; but I think you will not question the influence of this kind of incentive upon him.

*Fourth Grade.*—We find our example for this grade in the *Greek History Book*, in which the children have perhaps two dozen good pictures of Greek statuary. The pupils of the seventh grade printed the descriptions of the pictures which go with them. It has been questioned whether the study of Greek life in the fourth grade is not forcing the subject upon the child while he is too young, and whether it does not take the edge from the study of Greek history in the high school, but we venture to say that no parent whose child owns one of these books would be willing to have taken from the child's life the richness which has come to him through this work. The Art Institute is to him a place of joy. His *Poetry Book* is full of references which he understands and appreciates. Certainly there is much in the Greek life, in its strength and beauty and simplicity, which a fourth grade child can make a part of his experience. In fact, this work, as done in the fourth grade in this school, is a good example of what strong mental imagery does for the child and how the apperceptive process naturally widens experience.

I should like to give an illustration from each grade in each subject, but I have selected those in which the point is made most quickly, if not in the best way. The fifth-grade geography work would make an excellent example, but I could not do it justice within the limits of this paper, and I think I must content myself with one more center of work.

*Seventh Grade.*—I have chosen the seventh grade book on *Mediaeval History*, because it shows the same type of work in an advanced stage. The reasons for the choice of this work itself in seventh grade are given in the school catalogue, and we will not take time for a discussion of that point. The children found but meager data on this subject in our library. They went to other libraries for study, and the teacher brought into the school materials for reference. Each child in his English work wrote upon each topic which the class selected. Among the titles of stories were: "A Day in the Squire's Life," "A Troubadour," etc. When a paper had been made as good as the class could make it, it was printed by the class in the school print shop. Then came the binding and illuminating of the book. Each child made one book for himself and one for the library. I think the work speaks for itself, and you will appreciate the fact that any child who has made a book as beautiful as this one cannot escape the influence of such work; he must through all his life have a keener appreciation of *good work* and of what the *worker* puts into it.

If I have established my point, you have realized that the drill element comes into all of this work; but perhaps one more illustration will make this more clear. Let us take it from *mathematics*.

The children in the first four grades are constantly making articles for use, such as boxes, envelopes, books, furniture, tools. In this work they must use units of measurement in lines, area, volume, weight, and time. Drill comes in upon the *obstacles* which they find in their work. For instance, if a child is making a box and covering it with paper, he may need a margin of a half-inch. Perhaps this is the first time that he has definitely met "*one-half*" in his experience. Right there the teacher stops and drills upon *one-half:* one-half of an apple, one-half of a string, one-half of an inch, until the child understands thoroughly that one-half represents

one of the two equal parts of a thing. He then applies his new knowledge—applies it in other relations, until it is fixed. *But when it has been fixed*, and a similar need arises—because the result which the teacher is looking for is not found in the box, outside the child, but in the *child himself* in his knowledge and power and habits—the teacher asks him to use *one-fourth* of an inch as the margin, a smaller amount of paper; and thus he meets a new obstacle, has drill upon it, and overcomes it. And in like manner he gains his knowledge of the different combinations and separations of numbers, and of the elementary processes. He first recognizes a need for them in something he is doing, and then, through teaching, acquires the necessary ability to solve his problem.

You may question, naturally, whether the obstacles which present themselves would be sufficient to give him the necessary foundation in mathematics. We have been facing that question, as a school, in both mathematics and English work. We have a set of "*Minimum Requirements*" which the child must meet in each grade before he passes to the next. Within the limits of these requirements the child is drilled and his knowledge made definite. He may pass beyond these limits if his needs demand it, but the teacher of each grade is *responsible* that his foundation in the fundamentals of arithmetic and English are thorough to the extent which the grade "*Requirements*" demand. Within these limits, the work is motivated by problems arising in science, industrial history, and handwork.

In the third, fourth, and fifth grades the drill is for rapidity and accuracy. Here the child realizes that with the larger numbers he must use different processes and that with the greater number of his problems he needs facility and skill in manipulating figures. These motives for drill he easily understands and appreciates. This is also, physiologically, the best time for drill. It is the period for fixing the multiplication tables and the principles of all the elementary processes and operations.

Many illustrations might be given in this subject showing that the principle underlying drill, which we have used in the lower grades, is applicable in the upper grades also. An excellent example would be the "Business Arithmetic of the Seventh Grade," or the

application of mathematics to the eighth-grade civics work. But I believe we have had sufficient examples to show what we mean by natural, wholesome incentives to work, which are wholly within the comprehension of the child. I believe that you can see that in each case the child's goal is a part of the teacher's larger aim. I believe that we have established the fact that the principle of drill used in the school is that of working upon obstacles which come between the child and some end which he wishes to reach, which seems worth while to him, and which, therefore, he is willing to give all his effort to attain. In other words, the teacher and the child work in harmony, whatever the difference in size may be in the point of view or in the motive for work.

Another and different feature of the school which should be discussed under this principle—one which lies at the very center of our school social life and interests—is the *Morning Exercise*. Here, as you know, the entire school, from the kindergarten through the high school, meet together for about a half-hour each day. This year there has not been a single request from parent or child to be excused from the exercises. This may mean only that protest has seemed useless, and that all have resigned themselves to their fate, but I take a more hopeful view of it. Judging from the attitude and attention of the pupils, I believe that its value has come to be better understood.

It is no small thing for high school boys to succeed in making a "Current Events" exercise, through the use of maps and pictures, intelligible to younger children—even if they do not fully succeed in their purpose, the exercise has value. For instance, it happened the other day, in a chemistry exercise, that the boys attempted, through carefully made models, to show the proportion of the different gases that make up common air. Perhaps they did not succeed in making the little children understand all of it, but certainly their expression succeeded in clarifying this work in the minds of the pupils of the chemistry class itself.

> The teaching is to the teacher
> And comes back most to him,

and the little children got out of it the spirit and influence of this serious social effort.

For the little children, the good effect of the morning exercise is perfectly obvious. It is the greatest possible incentive to them for the best expression; the greatest possible opportunity for drill under good motives; the greatest possible means of overcoming self-consciousness and contributing one's self for the community good. It gives a natural opportunity and a normal demand for dramatic work.

Here, in short, the various needs and desires of the entire community are considered. Here the work of the entire school flowers for the benefit of all. What any high-school boy or girl would do in that little half-hour each day in the isolated study of any subject does not seem to me to compare with what is gained in the understanding of the needs, interests, and abilities of his fellows, big and little. It keeps each in sympathy with all.

The reports of our graduates as to what the morning exercises, even as to what the singing together in morning exercises, has done for them, justifies all the effort which it has cost to continue this feature of the school, which unifies all of it, and which Colonel Parker bequeathed to us as a unique educational legacy.

In like manner, were there time, we might illustrate the work which we are trying to do under each principle, but perhaps it would be more useful to turn again for a moment to the general theory which, through Colonel Parker's influence, is actuating the work of the school. On one side is the child, with his inherited instincts, impulses, and tendencies. Some of these are to be inhibited, others, like curiosity and the creative impulse, are to be wisely encouraged and developed. On the other side is the ideal toward which we are all working, the socially efficient man and woman, and each child is to be carried as far as possible toward physical, mental, and moral perfection.

Between the child and this ideal toward which he is to move, lie the rich stores of nature, of social and industrial life. This is the child's rightful inheritance. All that is best in art, literature, science, and industrial development is at the teacher's command as means to this end. And with these must go, *all the way*, the loving sympathy of the friend, the teacher who understands.

From Colonel Parker's point of view, there is in each child a

divine spark, whether he be high or low, fortunate or handicapped —a tendency to struggle toward the light, a "love of the best." If this is true, and if our conditions are right, then it will not be necessary to bribe the child by rewards or force him by fear into good work. He will be guided firmly and wisely into an understanding that his birthright and function is service.

The school holds that if children are doing work that is unsatisfactory, the parents should know it, and pressure should be brought to bear upon them strongly and steadily, but it strives, above all, to make its pupils experience the joy and satisfaction which come from doing a piece of good work. If we succeed, no other rewards or prizes will be necessary.

There is one thing which I must say in closing, which I believe this school must do if it would represent Colonel Parker aright. It must be more than a good private school. In fact, it has no right to exist at all as it is at present organized if that is *all* that it is. It must be a laboratory for the public school if it is to carry out Colonel Parker's ideal and hope for it. It must do its work so well that its products will be convincing enough to stimulate the community—even the great public school system—into a demand for like conditions for all pupils. Under that motive, no effort is too great to give to the cause.

The fact that we are small and ignorant is lost in the greatness of our ideal. Perhaps our part is only that of the Roman, Marcus Curtius; if so, we are willing to throw ourselves into the gap, in order that solid ground may be made in the educational forum. Many corps of devoted teachers might well give their lives for such a result.

It is ambitious to hope that in our ten years of effort, this school has made sufficient headway to have its principles received with confidence. It is attempting the difficult task of training human beings into freedom coupled with responsibility. It endeavors to give the child an opportunity of *choice*, of knowing what is right to do. It attempts to form in him ideals of conduct based upon real experience; it seeks to train in him a spirit of democracy, of judging himself and his fellows by what each is and what each does, rather than by what each says or what each has; to lead him to see with

tolerance that all are not gifted alike, that there is more than one kind of human worth, and that each is asked to contribute only *his best* to the whole, and that all are needed by each one.

As we see it, then, the immediate problem of this school is to create a school life so wholesome and joyous in spirit, so rich in opportunity for all-around activity and social service, so compelling in its demands for individual initiative, for judgment, self-control, and choice of conduct, so in harmony with the laws of human development, that every child will necessarily respond to its influence and act from good motives and from good habits of thought and action.

Finally, it is our hope that, as we become wiser, every child intrusted to us will move according to his ability to useful, efficient manhood and womanhood; that later, each child, in turn, will take his place in society, trained and ready to carry his full part of the burdens and privileges of citizenship.

To this end, Colonel Parker devoted all his life, all his great energy, and he was more fortunate than most reformers who have broken with tradition. And we, who are allowed to carry on the work which he began, are also fortunate and happy beyond measure. We have had ten years of rare opportunity for unhampered work.

The ideal which inspired him, and which inspires us, shines clearly before us. It reaches far back of Colonel Parker's personal life, and far beyond it. It finds itself personified in the love and in the life of the greatest Teacher in the world.

# WARREN COLBURN ON THE TEACHING OF ARITHMETIC TOGETHER WITH AN ANALYSIS OF HIS ARITHMETIC TEXTS[1]

## I. THE LIFE OF WARREN COLBURN[2]

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In recent times we have come to recognize Pestalozzi, the humble Swiss philosopher, as the source of certain practices which have been introduced into our elementary schools within the past century. Oral instruction, object-teaching, nature-study, and several minor practices are traceable to Pestalozzi as the first to realize them in practice. The first phase of Pestalozzianism to secure a strong hold on American schools was oral instruction. The introduction of this practice was due primarily to the work of Warren Colburn, although there is reason to believe that Colburn did not owe as much to Pestalozzi as is commonly supposed. But regardless of this question, Colburn must be regarded as a successful exponent of oral instruction and his *First Lessons in Intellectual Arithmetic* achieved almost incredible success as a text.

This alone is sufficient reason to justify a presentation of his life and work. But in addition, a new period in both the organization and the teaching of arithmetic begins with the appearance of his *First Lessons* in 1821. Thus Colburn occupies a place of first importance in the development of American arithmetic and arithmetic teaching.

Finally, his writings and his activities show him to be a man who had an unusual appreciation of the value and importance of education, and to be a man who possessed an insight into the educative process which was far ahead of his time and which we are only now coming to realize.

[1] This is the first of a series of articles on this subject. The next article will consist of Colburn's address on "The Teaching of Arithmetic."

[2] The source of most of the facts of Warren Colburn's life is an account in Barnard's *Journal of American Education*, II, 294.

Warren Colburn was born March 1, 1793, in the part of Dedham (Mass.) called Pond Plain. In 1794 or 1795 the family moved into Clapboardtrees Parish, later to High Rock, and in 1800 or 1801 to Milford. Richard Colburn, his father, was a farmer and the early life of the boy was spent on the farm. Presumably he participated in the usual activities of farm life. At the age of four, Warren attended a summer district school. At Milford, he began to attend the winter district school. From Milford the family moved, about the year 1806, to Uxbridge, where he continued to attend the winter terms of the common school.

It was at this last place that his aptitude and expertness in arithmetic began to attract attention. His father encouraged this aptitude by taking into the family Mr. Gideon Alby, an old schoolmaster who was good at figures. Mr. Alby instructed the boy in "cyphering" during the long winter evenings.

About this time Colburn seems to have developed either a distaste for the farm, or an aptitude for machinery and certain lines of manufacturing. Apparently on his account, the family left the farm about 1810 and moved to Pawtucket, R.I., so that he might have the opportunity to learn something of machinery. During the next five years he worked in factories, and it was not until the summer of 1815 that he began to prepare himself for college. Just why he developed a desire for a college education is not told us, but clearly he possessed a very keen motive for it. Such was his zeal that he prepared for college within twelve months, although apparently he had not studied languages before. For this reason he was ill prepared in all except mathematics when he entered Harvard College in 1816.

Throughout his college course he was recognized as excelling all his classmates in mathematics. It is said that he applied himself with equal faithfulness to the classics, and in spite of his poor preparation he commanded the respect of his instructors and stood well in these classes. In mathematics he mastered the calculus and read through a considerable portion of the great work of Laplace. He graduated in August, 1820.

During his collegiate course he taught during the winter months in Boston, in Leominster, and in Canton. After leaving college

he began teaching in a select school in Boston. He continued in this school for about two and a half years. He then gave up school teaching and went to Waltham as superintendent of the Boston Manufacturing Company. In August, 1824, he became superintendent of the Lowell Merrimack Manufacturing Company at Lowell. He continued in this position until his death, September 13, 1833.

In the winter of 1826, Lowell was incorporated as a town, and at the first town meeting Mr. Colburn was chosen a member of the Superintending School Committee. It is said that in order to provide time for proper attention to the affairs of the new school system, the committee often held their meeting at six o'clock in the morning. Mr. Colburn served on this committee for two years and was re-elected in 1831 but was excused at his own request.

He was elected a Fellow of the American Academy of Arts and Science in 1827. Also, for a number of years he was a member of the Examining Committee for Mathematics at Harvard College.

While at Lowell he conceived a scheme for the intellectual improvement of the community by popular lectures on scientific subjects. Throughout the autumn and winter of 1825 he gave illustrated lectures upon natural history, light, the seasons, and electricity. He continued giving popular lectures for several years, varying the content somewhat from year to year. On one occasion he received and accepted an invitation to deliver a series of lectures before the Mechanics' Charitable Association in Boston.

It was while teaching in Boston that he wrote his arithmetics. The *First Lessons in Intellectual Arithmetic* came from the press in the autumn of 1821. The *Sequel to the First Lessons* was published about a year later.[1] In 1825 he published *An Introduction to*

[1] The date of publication of the *Sequel* has been erroneously given as 1824, and one writer has given it as 1826. Neither of these dates is correct for I have in my possession a copy bearing the date of 1822, the date of copyright being October 30.

I have in my possession two other copies of the *Sequel*. One bears the date of 1826 and is a third edition, but retains the copyright date of October 30, 1822. The other bears the date of 1828 and there is a slight change in the title of the book. The first copy bears the title, *Arithmetic; Being a Sequel to First Lessons in Arithmetic.* In the edition of 1828 the title is changed to *Arithmetic upon the Inductive Method of Instruction: Being a Sequel to Intellectual Arithmetic.* The copyright date of this edition is May 25, 1826. This does not appear to be a revision of the original text, except that a few minor changes are made.

*Algebra upon the Inductive Method of Instruction.* Although the algebra was not published until after he had ceased teaching, it was a part of his originally conceived plan which had its incipiency in his teaching experience.

Mr. Batchelder, of Cambridge, states: "I remember once, in conversing with him with respect to his arithmetic (the *First Lessons*), he remarked that the pupils who were under his tuition made his arithmetic for him: that he had only to give attention to the questions they asked, and the proper answers and explanations to be given, in order to anticipate the doubts and difficulties that would arise in the minds of other pupils; and, the removal of these doubts and difficulties in the simplest manner was the foundation of that system of instruction which his school-books were the means of introducing."

He published about the same time a series of reading books for young children. Each book of the series contained some appropriate instructions in English grammar. It is said that his method of presenting grammar gave results scarcely less admirable than in arithmetic. Before his death he had planned a revision of his *Sequel* which was intended to meet the criticisms which had been made upon it. Unfortunately he had not committed his ideas for the revision to writing and nothing has come down to us of what probably would have been a work of even more merit.

The *First Lessons* was immediately introduced into the schools. It enjoyed greater popularity than any other arithmetic ever published. In 1856 the statement was made that 50,000 copies were used annually in Great Britain and 100,000 annually in the United States. It was even translated into foreign languages. It is still published by Houghton Mifflin Company.

Says Mr. Thomas Sherwin, principal of the high school, Boston: "I regard Mr. Colburn as the great benefactor of his age, with respect to the proper development of the mathematical powers. Pestalozzi, indeed, first conceived the plan; but Mr. Colburn realized the plan, popularized it, and rendered it capable of being applied by the humblest mediocrity. Indeed, I regard the *First Lessons* as the *ne plus ultra* of primary arithmetics.

The *Sequel* is certainly a work of great ingenuity, which shows a great mastery of the principles of education, and which he himself considered a book of more merit and importance than the *First Lessons*. Of the *Sequel*, indeed, it may be said, not only that its true value has not, in general, been sufficiently estimated, but, that its actual influence on the use, the understanding, and popularity of the *First Lessons* has been appreciated only by particular observers.

Colburn received the genuine respect of all who knew him. At college he was liked and respected by all his classmates, although he was not accustomed to participate in the social activities of college life. He was older and more mature than his fellow-students and seems to have taken his college studies quite seriously. He was not brilliant in conversation nor in public speech. Soon after Colburn's death, Dr. Edward G. Davis, a classmate, wrote of him as follows:

> In the constitution of Colburn's mind, many circumstances were peculiar. His mental operations were not rapid, and it was only with great patience and long-continued thought that he achieved his objects. This peculiarity, which was joined with an uncommon power of abstraction, he possessed in common with some of the most gifted minds which the world has produced. Newton, himself, said that it was only by patient reflection that he arrived at his great results, and not by sudden or rapid flights. In Colburn this slowness and patience of investigation were leading traits. It was not his habit, perhaps not within his power, to arrive at rapid conclusions on any subject. . . . . His conclusions, reached slowly and painfully, were established on a solid basis, and the silent progress of time, that great test of truth, has served but to verify and confirm them.

The trend of his mind at the time of leaving college is reflected in his thesis, which was *On the Benefit Accruing to an Individual from a Knowledge of the Physical Sciences*. One paragraph is especially significant:

> The purpose of education is to render a man happy as an individual, and agreeable, useful, and respectable as a member of society. To do this, he ought to cultivate all the powers of his mind, and endeavor to acquire a general knowledge of every department of literature and science, and a general acquaintance with the world by habits of conversation. And this is not inconsistent with the most intense application to a favorite pursuit.

His life after leaving college is an example of the opinion he expresses here. Although engaged as a superintendent of a manufacturing company, a position of responsibility and one which required constant attention, Colburn found time to continue his educational endeavors. His algebra was completed after leaving the schoolroom. He was one of the founders of the American Institute of Instruction, and delivered a masterly address before that body on "The Teaching of Arithmetic."

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Dr. Davis, referred to above, says further:

> His great and most interesting project, that of improving the system of elementary instruction in mathematical science, appears to have occurred to him during the latter part of his college life, and was the subject of painful thought many years before his first work made its appearance. It required, indeed, no small energy of mind thus to break through the trammels of early education, and strike out a new path; for, Colburn, like others, had been brought up under a system the reverse of that which he now undertook to mature and introduce. . . . . In the course of a few years, the appearance of these little books seemed to have revolutionized the mode of teaching elementary mathematics in the schools of New England. Various modifications have since been introduced into his plan, for which, whether improvements or otherwise, little credit can be claimed on the score of originality; and it may with safety be asserted, that whatever in the present mode of teaching the science of numbers in our schools distinguishes it from that in use twenty years since, is attributed mainly to his publications. . . . .
>
> His *First Lessons* was, unquestionably, the result of his own teaching. He made the book because he needed it, and because such a book was needed in the community. He had read Pestalozzi, probably, while in college. That which suited his taste, that which he deemed practicable and important, he imbibed and made his own. He has been sometimes represented as owing his fame to Pestalozzi. That in reading the account and writings of the Swiss philosopher, he derived aid and confidence in his own investigations of the general principles of education is true. But, his indebtedness to Pestalozzi is believed to have been misunderstood and overrated.

As indicated in this last statement, it is usual to speak of Colburn as one who successfully utilized Pestalozzi's ideas, but, even before I came upon this comment by Dr. Davis, my studies of the works of the two men had caused me to feel that the connection between them was much less than I had supposed. Colburn's work shows much originality, and in any case he went much farther than Pestalozzi. His books contain several important features which do not appear in Pestalozzi's writings.

When we come to give proper recognition to the pioneers in American education, much credit will be attached to Colburn's work. His arithmetic texts and his address on "The Teaching of Arithmetic" can profitably be studied by any teacher. Besides the historical interest which is attached to a significant work, his books contains excellent ideas which we are only now coming to realize. It is my purpose to present in a future article some of the most significant features of his texts.

# CURRENT METHODS OF TEACHING HANDWRITING. I

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The purpose of this article is to compare critically the typical methods of teaching handwriting which are in extensive use in the United States. The information upon which the article is based was gathered by a questionnaire which was sent to all of the cities of the United States of 50,000 inhabitants or more according to the census of 1900. Seventy-six letters were sent out to which forty-four replies were received. These replies give a sufficiently typical view of the class of school systems which were investigated. This investigation does not, of course, include the rural systems of schools. It cannot, therefore, pretend to be a complete view of the methods of writing in use. The aim, however, was not so much to attain completeness as to determine what the various tendencies of the more enlightened practice are. Probably no important type of instruction is missed by this method. The relative prominence of the different methods is also probably represented with a fair degree of accuracy.

One of the questions which was included in the questionnaire was in regard to the system of writing and the style of copy-book, if any, which was used. On the basis of replies to this question letters were sent to the publishers of the copy-books which were referred to and samples were obtained. A bibliography of the systems of teaching and of the copy-books which were used in the cities from which replies were received is given at the end of the article. These may be referred to in the course of the article by the name of the system.

We may first discuss the replies which were received to the questionnaire regarding some of the more outstanding features of the methods of teaching. The following is a copy of the questionnaire:

QUESTIONNAIRE

What method is used? 1. Vertical———; Slant———. 2. Arm movement: Yes———; No———; Intermediate form———————————————————. 3. Is any particular system used? If so, what?———————————————————.

Are copy-books used? If so, what kind?———————————————————.

How much time is spent in writing per week? Grade I,———; Grade II,———; Grade III,———; Grade IV,———; Grade V,———; Grade VI,———; Grade VII,———; Grade VIII,———.

In what grade is writing begun? In general?———————————————————. With pen?———.

Is there a writing supervisor? If so, name———————————————————.

Remarks:———————————————————.

## DISCUSSION OF THE REPLIES

The 44 replies which were received have been tabulated and the results are as follows:

*Slant of writing.*—In the school systems which were studied the vertical system of penmanship is very much in decline. Only 3 cities out of 44 use this system. In 41 some form of slant is used. The variations in slant which are found will be discussed in a later paragraph. The use of vertical writing, however, is clearly an exception in present-day education.

*Type of movement.*—The prevalence of arm movement is almost as decided as the prevalence of slant in writing. The replies from 38 of the systems which were studied definitely stated that the arm movement was used in the schools, and it is probable that in still others this form of writing is used. A few, to the number of 9, replied that some intermediate or combined form of movement was used. This may mean that finger movement is allowed in the earlier grades or that the attempt is not made entirely to exclude finger movement in the writing of the upper grades; but even in this case some arm movement is emphasized. There is, in fact, scarcely a system which does not to some extent emphasize arm movement. The main difference is in the degree or emphasis which is given to

this feature of writing. This forms a sharp contrast to a state of the pedagogy of writing twenty or more years ago. The introduction of the arm movement may be traced to the influence of the business colleges which began this form of writing some time previously. There is no doubt that this is in general a great advance over the older method. The question in regard to the time and manner of its introduction will be touched upon below.

*Copy-books.*—Another trend in modern teaching of writing is evident in the replies to the question regarding the use of copy-books. In 18 out of 44 cities no form of copy-book is used. The majority of city systems still use the copy-book but these do not include the largest systems. For example New York, Chicago, Philadelphia, and St. Louis have abandoned this method of teaching. It is probable that the rural systems use copy-books very much more prevalently than the city systems. In order to teach writing without a copy-book more skilful supervision and training of teachers is necessary, and the easy method is to put copy-books in the hands of the children and allow them to write without very much direction. The trend in the better systems, however, is decidedly away from this practice.

This trend in the teaching of penmanship is analogous to the change which took place in the teaching of drawing in the latter part of the nineteenth century, and the basis for the change is very much the same in the one case as in the other. The arguments for and against copy-books may briefly be stated. The copy-book is regarded as of advantage in teaching writing, first, because it presents to the child what is regarded as a perfect model for him to imitate. The belief is that the more perfect the model which is set before the child the closer will be his approximation to it. There are several fallacies, however, in this position. In the first place the engraved model is the lifeless result of writing and not the process of writing itself. The child can very much better imitate the process of performing an act than the result of the act after it has been completed. Therefore, the sight of a teacher writing presents to the child in a very much clearer form the process of writing which he has to develop. The whole emphasis of present-day teaching is upon the development of the movement by

which the child produces letters and not upon the result as divorced from the movement. Again the copy which is presented in the copy-book is not ordinarily a possible form of writing. It is not produced by writing in the ordinary way, and it does not, therefore, suggest the kind of writing which we wish to develop, but suggests rather the slow drawing process by which it itself was actually produced. An ideal which is impossible of attainment by the method which is to be used is a false ideal and has no advantage above a more imperfect product which was produced by the ordinary writing method. It may be said in reply to this argument that the teacher is ordinarily not capable of setting up a good enough model for the child. If this is the case, however, the teacher is not fit to teach the child properly even with the aid of a copy-book. In every form of teaching which involves skill or dexterity imitation is one of the best means of training, and it is clearly recognized that a person who cannot perform the act himself is not qualified to teach another to do it. To set up as a model the finished result is nowhere else regarded as a satisfactory method of teaching the process. It should no more be regarded as satisfactory in the teaching of handwriting. The remedy for poor writing on the part of the teacher then is not the substitution of the finished product in a copy-book, but is rather an acquisition of skill on the part of the teacher. This is no unreasonable demand of any person who possesses the average degree of manual skill.

A further argument in favor of copy-books is that they present a systematic order of development of the forms of writing and of drills. This is the argument which applies to the use of textbooks in general and is valid so far as it goes. It must be borne in mind, however, that a better method is for the teacher to be so familiar with the principles underlying the development of writing that no such system is necessary. Furthermore, this need could be met by a manual which should give the different stages of development and which could be in the possession of the teacher. It does not require a copy-book with spaces left upon which the pupil may write. A somewhat more elaborate substitute may be found in copy-slips by which the pupil may guide his practice.

A final argument which is introduced in the use of copy-books

is that they furnish a means by which the child may keep a permanent record of his attainment at various stages and by which he may be encouraged to produce and keep a neat and clean page. According to this view the copy-book is not used for the main practice of the child but is used after he has gone through his practice period merely to record a sample of his writing at that particular time. In this use of the copy-book one of the fundamental objections to this method of teaching is recognized, namely, the fact that writing can best be taught, not by the labored production of a small amount of writing in the attempt to produce as accurate forms as possible from the start, but rather in abundant writing produced freely and with a gradual approximation to the standard. Under this second method a single page is not at all adequate for the amount of writing which should be done in a period. The practice must in this procedure be done upon other paper, and the copy-book is used merely to record a sample of writing. The difficulty with this use of the copy-book is that there is a tendency to write in a more labored style in the book than upon the practice paper, and the same object may be attained by keeping samples of the child's practice writing at different times.

*Time devoted to writing.*—The replies which were received to the question regarding the amount of time which is given to penmanship in the grades are presented in Table I. This table shows the number of school systems out of 44 which were investigated which devote various amounts of time to writing in the eight grades. Thus 14 systems devote on the average from 70 to 79 minutes a week in the first grade. The median has been calculated and is shown at the bottom of the table. It will be seen that the amount of time which is spent in the first five grades is fairly constant and that it diminishes in the three upper grades. Some systems devote no time at all in the first and even second grade and some devote no time in the seventh and eighth grades. The greatest emphasis then is placed in the early and middle grades. The amount of time which is devoted is, in general, about fifteen minutes a day, and this also is the amount which is most frequently devoted. A large number of systems spend as much time as twenty minutes a day and over, and no systems spend less than ten to

twelve minutes throughout the grades. There is no indication how this time is distributed, since the replies were given in terms of number of minutes a week. If we may draw any conclusion from these facts it is that the general experience has been that at least about fifteen minutes a day is required in order to teach writing successfully.

*Time of beginning.*—Another feature of the practice in teaching writing upon which the replies give us data is the time at which writing is begun and the time at which the use of the pen is begun. The tabulation of this data is shown in Table II. It will be seen that it is practically the universal practice to begin writing in the first grade, but that writing with the pen is commonly deferred to the second, or still more frequently to the third grade. This practice will be referred to again in the discussion of the various methods and systems of writing.

A final point upon which the replies furnish data is the prevalence of the employment of a supervisor of penmanship. In 18 of the 42 cities from which replies on this point were received a supervisor is employed, while in 24 cities there is no supervisor.

TABLE I

FREQUENCY OF DIFFERENT AMOUNTS OF TIME PER WEEK IN THE DIFFERENT GRADES

| Minutes | I | II | III | IV | V | VI | VII | VIII |
|---|---|---|---|---|---|---|---|---|
| 0– 9 | 3 | 1 | .. | .. | .. | .. | 2* | 6* |
| 10– 19 | .. | .. | .. | .. | .. | .. | 1 | .. |
| 20– 29 | 1 | .. | .. | .. | .. | .. | 1 | .. |
| 30– 39 | 1 | .. | .. | .. | .. | 1 | 1 | 3 |
| 40– 49 | .. | .. | .. | .. | .. | 1 | 3 | 2 |
| 50– 59 | 1 | 1 | .. | 1 | 3 | 1 | 2 | 3 |
| 60– 69 | 4 | 3 | 2 | 4 | 7 | 11 | 10 | 8 |
| 70– 79 | 14 | 18 | 22 | 18 | 13 | 12 | 6 | 8 |
| 80– 89 | .. | 2 | 5 | 4 | 4 | 4 | 5 | 2 |
| 90– 99 | 3 | 2 | .. | .. | 5 | 3 | 2 | .. |
| 100–109 | 11 | 10 | 8 | 11 | 8 | 7 | 6 | 6 |
| 110–119 | .. | .. | .. | .. | .. | .. | .. | .. |
| 120–129 | 1 | 3 | 3 | 3 | 1 | 1 | .. | .. |
| 130–139 | .. | .. | .. | .. | .. | .. | .. | .. |
| 140–149 | .. | .. | .. | .. | .. | .. | .. | .. |
| 150–159 | 1 | .. | .. | .. | .. | .. | .. | .. |
| Median | 77 | 78 | 77 | 78 | 77 | 75 | 69 | 66 |

* Three reports left the columns for Grades VII and VIII blank. If this means that no time was spent these frequencies should be 5 and 9, respectively.

TABLE II

FREQUENCY WITH WHICH WRITING IN GENERAL AND WRITING WITH A PEN IS BEGUN IN THE DIFFERENT GRADES

| Grade* | In General | With Pen |
|---|---|---|
| I | 40 | 5 |
| II | 2 | 14 |
| III | 0 | 20 |
| IV | 0 | 1 |

* Where the practice is variable the lower grade is taken.

## ANALYSIS OF WRITING SYSTEMS

On the basis of an analysis of the writing systems which were examined in connection with this investigation we may outline the chief methods which are in use at the present time. These methods will then be compared and critically discussed in order to determine, so far as possible, on the basis of psychological analysis, experimental investigation, or practical results, what the more progressive forms of teaching are and in what directions present methods may to advantage be still further modified.

*Choice of materials.*—The choice of proper materials for writing, such as paper, pens, and ink, while seemingly a trivial matter, is yet of considerable importance if the best results are to be obtained. The various authors of penmanship methods are pretty well agreed upon these points and it is only necessary briefly to summarize the consensus of opinion. The pen should, first of all, be smooth, and so constructed that the ink will flow freely and produce a line without noticeable pressure or scratching. It should not be too fine, especially for the lower grades, and should hold the ink well so that it does not easily drop off and form blots. Where pencils are used they should be large and should contain soft lead, especially for beginners.

The penholder should be about three-eighths of an inch in diameter at the bottom and may be of wood, cork, or rubber. A small penholder, or one which has a smooth surface is very much more difficult to hold firmly without gripping. Especially constructed penholders for the purpose of insuring correct penholding are of doubtful value. Correct pen-holding cannot be

secured so well by such mechanical means as by some simple form of drill which insures that the pupil's hand is in a natural position. Differences in the size and proportions of the fingers and thumb make minor differences in the matter of holding the pen essential, and therefore render such mechanical contrivances artificial.

The paper for use with the pencil may be somewhat rough and should be in large sheets which may gradually be reduced in size as the child progresses. For writing with the pen, however, the paper should always be of good quality. The surface should be smooth and at the same time firm, so that the pen does not catch in it and produce a line which is not clean. Economy in practice paper is false economy, since it impairs the development of the habit. For the sake of the pupil's eyes the paper should not have too much gloss.

The question of lines to guide the writing is one in which there is some lack of agreement. The older practice which is represented by the Spencerian system was to divide the paper into spaces which should mark off the heights of the various letters. This practice has been generally given up, though it is still retained by a few of the copy-books which are widely used. It is on the decline, however, and undoubtedly is not in accord with the psychological principles underlying the writing habit. Experiment has determined that the use of restricting lines tends to increase the amount of finger movement and to reduce the freedom of the movement in general. It is better to allow considerable unevenness at first and to work for gradual improvement in the height and alignment of the letters by the development of the control of the movement. The same question arises in regard to the use of a single line to mark the bottom of the single-space letters. The common practice among more advanced teachers of primary writing is to begin with unruled paper, then to use paper with lines an inch or so apart, then a half-inch, and so on, to about three-eighths of an inch. It is a question, however, whether the same reason holds here for not using lines as it does in the case just mentioned. A base line probably does not act as a restriction to the child, but as a guide to his poorly controlled movements. It is probably well then to use a base line from the beginning, but to have the lines far enough apart so that the writing may be large and free.

*Posture.*—The practice in regard to the posture of the body and to the position of the hand in holding the pen is fairly uniform. The posture which is in widest use is the so-called front position. This posture was resorted to in order to overcome the evils of the side position which formerly was assumed in slant writing.[1] The adoption of vertical writing was primarily a reform in posture and only secondarily a reform in the manner of writing. It was soon discovered, however, that the front position did not necessitate the vertical form of writing, and that the considerations of ease of movement and rapidity of writing required that the paper be tilted toward the left, and that the writing have a slant about equal to the angle through which the paper was tilted. This principle is very generally recognized and the variations in slant or in the positions of the paper are not great.

*Pen-holding.*—The manner of holding the pen which is recommended in the various systems of teaching is also in general the same. It has been worked out empirically and is based upon the old Spencerian method. Some modifications have been made by allowing for more individuality and flexibility. In order that the hand may be free to move along the line and to move freely in the production of the letters, it is prescribed that the hand should rest only upon the third and fourth fingers. Some require the rest to be entirely upon the finger nails, and others allow the fingers to be folded under and the hand to slide upon the skin of the third and fourth fingers. The old requirement that the hand be turned so that the wrist is level is retained, with allowance for some variation. The purpose of this prescription is to prevent the hand from turning on the side and thus being in a position in which it is not easily moved over the paper. The directions for grasping the pen prescribe that it be held in the natural position between the thumb and first and second finger, in such a way that the thumb and fingers are slightly bent, but not rigid. Emphasis is laid upon the requirement that the pen be grasped lightly. The old requirement that the top of the pen point toward the ear is relaxed somewhat,

[1] For a discussion of the relation of posture to the slant of writing see "Some Issues in the Teaching of Handwriting," *Elementary School Teacher*, XII, 1–7 and 53–59, by the author.

and the usual direction is that it point somewhere between the elbow and the shoulder. The purpose of this prescription is to prevent the hand from turning too far to the side. A final direction is that the pen cross the first finger not back of the third joint, that is, that it be not allowed to fall into the hollow between the thumb and finger. The reason for this prescription probably is that when the pen is allowed to drop behind the third joint it makes a sharp angle with the paper in which position it does not slide over the paper so easily as when it is more nearly vertical. Detailed directions for posture and pen-holding may be found in any complete manual of writing. An elaborate discussion of pen-holding may be found in Vol. I, No. 1, of *The Modern Writing Master*, published by W. A. Whitehouse, Boston. A thorough discussion of posture can be found in The Palmer method.

BIBLIOGRAPHY OF SYSTEMS OF TEACHING AND COPY-BOOKS USED IN THE CITIES FROM WHICH REPORTS WERE RECEIVED AND CONSULTED IN THE PREPARATION OF THIS SURVEY

1. Barnes' *Natural Slant Penmanship;* American Book Co., New York.
2. M. E. Bennett, *Method in Teaching Writing;* Bennett Publishing Co., Pittsburgh, Pa.
3. Berry's *Writing Books;* B. D. Berry & Co., Chicago.
4. California State Series—*Writing;* Published by the State, Sacramento, Cal.
5. *Economy System of Penmanship;* Laurel Book Co., Chicago.
6. *Gilman Copy-Book;* Thompson-Brown Co., Boston.
7. Houston's *Writing Slips;* Harry Houston, New Haven, Conn.
8. *Medial Writing Books;* Shaylor & Shattuck, Ginn & Co., New York.
9. New Era Series—*Semi-Slant Writing;* Eaton & Co., Chicago.
10. *Palmer Method;* A. N. Palmer Co., Cedar Rapids, Iowa.
11. Philadelphia Public Schools—*Instructions for Teaching Penmanship;* M. G. Brumbaugh, Walther Print., Philadelphia.
12. Platt R. Spencer's Sons, *Practical Writing;* American Book Co., New York.
13. *Standard Free-Hand Writing;* Christopher Sower Co., Philadelphia.
14. Steadman's *Graded Lessons in Writing;* American Book Co., New York.
15. *Whitehouse System of Practical Writing;* Silver, Burdett & Co., New York.
16. J. C. Moody, *Writing Hour;* Chas. E. Merrill & Co., New York.

[*To be continued*]

# EDITORIAL NOTES

**Rural Schools**

A general committee of the National Education Association, under the leadership of Superintendent Fairchild of the state of Kansas, is carrying on an educational campaign to persuade teachers and communities in general of the importance of improving the conditions in rural schools. The facts show that a very large part of the American school population is receiving its elementary training in country schools. It needs very little acquaintance with the conditions in most rural schools to convince even the superficial observer that these schools are not adequate places to prepare for the later obligations of citizenship. The buildings are usually inadequate and unequipped with the materials necessary for the conduct of successful schools. The teachers, even where they are most conscientious in their efforts to do their work, are usually untrained and inexperienced girls, utterly incompetent to give any view of the world into which the children are going to go, or of the knowledge which they ought to possess if they are to deal adequately with their future environments. The periods of schooling are short, and the distractions great. The supervision which is a check upon most of the schools in the large communities is entirely wanting, and the influences that in larger communities operate to make the older members of society aware of the shortcomings of the school are for the most part absent.

**Interests of All Involved**

This pessimistic picture of the conditions to be found in the great majority of American country schools is significant not merely for the small communities in which these schools are situated, but also for the country as a whole. Many of these children will apply for admission to neighboring high schools, and will be found to be inadequately trained. Most of the children will ultimately find employment in the larger communities and will constitute the working population of the cities to such an extent that their training is a matter of importance to all who come in contact with them.

From the point of view of the state school systems of education, the rural school is the most important single concern. While the city schools can be trusted to take care of themselves to a very large extent, and to equip themselves for educational work, the expenditures of state funds will always relate most largely to the needs of rural districts. In one particular especially the state will have to take up the problem and deal with it. The rural schools cannot prepare teachers; the state must in some fashion meet this demand. The establishment of normal schools has proved to be entirely ineffective in this matter. The normal schools in every state are so few in number that their graduates are absorbed by the neighboring towns, very frequently by the single town in which the normal school is situated, and there is no possibility of sending back to the country districts, where well-trained teachers are needed, the graduates of these state institutions. Various devices, such as training classes in high schools, are being tried, with some degree of success, but the state funds will have to be drawn upon more largely to solve this problem, as well as other problems of the rural school.

**Need of a Campaign of Publicity**

The problem is one which must appeal to students of education from another point of view. The people in the country districts are not able to raise the standard of rural schools unless they are made acquainted with the deficiencies in their present schools. While the professional teacher in the city is aware of the inadequacies of rural education, he very infrequently expresses his judgment of the inadequacy of this education in such a way as to give assistance to the communities that suffer from the unfortunate conditions known to the professional teacher. There must be a professional condemnation of the existing situation, and a professional movement in the direction of improvement of this condition, if there is to be any large development of better school work in the country districts. The fact that one part of the school system is allowed to drag behind is a sympton of the general lack of professional spirit among educators which has been a frequent subject of comment. If the business of conducting schools in the cities is something more than the mere business of holding classes and organizing educational

influences of limited range, then the teachers in the cities should recognize it as their immediate obligation to improve the whole state system, and this includes, as one of its most important elements, the rural schools that surround the city. If the individual teacher recognizes his place in a general system of education, he will see that he suffers by the ineffectiveness of the rural schools, because these schools represent numerically the majority of the educational efforts in the state and in the country at large.

**Duty of the National Education Association**

In view of all these considerations it is gratifying to note that a Committee of the National Education Association has taken up a serious campaign for the improvement of rural schools. The association could well afford to contribute liberally to the support of the committee. If two thousand to five thousand dollars a year were put at the disposal of this committee it would be an expression of professional spirit, a distinct advantage to the rural schools, and a contribution to the educational interests of the whole country.

# BOOK REVIEWS

*A History of the United States for Schools.* By ANDREW C. MCLAUGHLIN and CLAUDE H. VANTYNE. Appleton, 1911. Pp. vi+430.

The authors of this textbook of American history for the higher grammar grades announce in their preface that they are writing a history for "serious study," not for story-book reading, and that consequently only events essential to the understanding of our social, political, and economic institutions have been selected for treatment. The space saved by the sacrifice of unmeaning events is to be utilized for the "fuller explanation and interpretation of really important events." We believe that this is the most useful object that an author can propose to himself in approaching the field of American history, or any other history; for no heavier incubus weighs upon our historical teaching than the accumulated traditions, often trivial, generally inconsequent, which have been hallowed only by long repetition.

The book under discussion is an improvement in this respect over most of the textbooks in American history for the grammar grades. The material is presented in clear, simple language, and in orderly form. Still, there is something to be desired in the emphasis and spacing of the material. Colonial material is picturesque, and perhaps there is greater justification for a relatively full treatment of the Colonial period in a grammar-school book than in a high-school book. Still we feel that 75 pages on the Colonies in a book of 430 pages is a disproportionate amount. The Colonies and the Revolution together occupy one-third of the text of the book. Washington's inauguration is not reached until p. 215—just exactly half-way through the book. It should come not later than one-third of the way. The inevitable result of this disproportionate emphasis on the Colonial period is to prevent the adequate treatment of our later history. Only a few pages are devoted to the years from Reconstruction down to the present. Cleveland's first administration is dismissed with a single page (393) and the tremendous problems of his second administration, which ought to have a chapter, are disposed of in less than three pages (395–97). At the same time over twenty pages are devoted to the military operations of the Civil War. This question of distribution of emphasis is the pressing one for our textbook writers now, and we could wish that the present authors had been more bold and radical than they have been.

Perhaps there is also a little too close adhesion to a chronological sequence in the book. In the treatment of the Revolutionary War, for example, the story of the campaigns is interrupted to insert the account of the Declaration and the Confederation (pp. 161–68), and the operations in the West are sandwiched in between the Atlantic campaigns (pp. 179–82). Probably a topical treatment here would make more impression on the young student than the strictly chronological treatment. The authors have adopted the topical treatment in dealing with slavery (pp. 295–303, 319–28), and it immediately enhances the vividness of their narrative at that point. Only the Missouri Compromise (p. 263) has got isolated from the slavery pages and finds itself among irrelevant matter.

There are a few expressions which we would question. Is "the middle of the earth" a good definition for *Mediterranean*, applied to the sea, (p. 1)? Was Portugal

to *keep* Brazil in 1494, seeing that Cabral's voyage did not come till 1500 (p. 28)? Was England at all "exhausted" by the War of the Roses, or were its battles for the most part only ridiculously petty conflicts between a few hundred baronial retainers (p. 36)? Are not the lists of colonies arranged respectively according to social characteristics, political constitution, and local administration, a bit confusing, coming so nearly together as they do (pp. 126, 130, 131)?

The footnotes are perhaps too numerous for a grammar-school book; still, they are illuminating and enlivening. One would not wish this matter out of the book, but probably many of them could be lifted into the text.

DAVID S. MUZZEY

ETHICAL CULTURE SCHOOL
NEW YORK

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*Education for Citizenship.* By DR. GEORG KERSCHENSTEINER. Rand, McNally & Co., 1911. Pp. xx+133. $0.75.

In his introduction to the above work Mr. Sadler says: "This book will be a landmark in the history of education. . . . . It is a book of ideas which have been realized in practical administration."

The practical situation to which reference is made is the organization of the continuation schools in Munich where Dr. Kerschensteiner is director of the public schools. Chap. v contains a description of the Munich system of continuation schools. In these schools, Dr. Kerschensteiner emphasizes the necessity of making "trade efficiency" the first consideration, but of coupling with this a study of the history of manufacture, of the conditions of workers, of tools and materials, and other subjects which grow out of the trade, and which tend to "humanize" and broaden the workers' point of view. He criticizes the tendency which has prevailed in many continuation schools, to make the instruction too abstract and too general, i.e., not sufficiently related to the worker's special trade.

The organization of continuation schools, however, is only one phase of the problem of training for citizenship which is discussed in the book. The main thesis is an argument for the type of social education which has been represented in America in theory by John Dewey and in practice by Jane Addams. The most important period for training in citizenship according to the author, is from fourteen to twenty. The essential condition of such training is an opportunity to participate in a co-operative social situation in which the youth may develop the point of view and initiate the habits which will apply in his life as a citizen. Apart from the continuation schools, the best opportunities for such activity are found in the clubs and festivals with which we are familiar in this country in connection with the work of the social settlements and the use of school buildings as community centers.

The author treats his problem in a broad and scholarly way, but the language is relatively non-technical and very readable. In these respects it resembles Dewey's *School and Society*. While most of the illustrations are drawn from German conditions, there are many comparisons with English, French, and American conditions. Generally speaking, the book should furnish interesting and profitable study for all who are concerned in the organization of education for boys and girls who have passed beyond the influence of the ordinary schools.

S. C. PARKER

*How the "Fourth" Was Celebrated in 1911.* By LEE F. HANMER. Dept. of Child Hygiene of the Russell Sage Foundation. Pp. 54. Price 10 cents.

This booklet is issued for the purpose of furthering the movement for a "sane Fourth." It is intended to serve as a stimulus and guide to those who desire to work a reform in the celebration of Independence Day in their communities by furnishing information concerning the accomplishments of other communities in the same direction. The booklet includes illustrated descriptions of typical sane celebrations, a list of typical state laws and city ordinances regulating the manufacture, sale, and use of explosives, and a collection of programs and suggestions. A list of other publications on the same subject by the Russell Sage Foundation is given at the end. This timely booklet should prove serviceable in the much-to-be-desired reformation of the dangerous and noisy Fourth.

F. N. F.

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*Mathematics in the Elementary Schools of the United States.* International Commission on the Teaching of Mathematics: The American Report, Committees I and II. United States Bureau of Education, Bulletin, 1911, No. 13. Pp. 182.

The report includes: (*a*) Schematic survey of American educational institutions —their sequence and interrelation; (*b*) General survey of elementary schools:

I. The aim and organization of the elementary schools;
II. The curriculum in mathematics in the elementary schools;
III. Examinations from the point of view of the schools;
IV. Method of instruction in arithmetic;
V. Training and qualification of teachers;
VI. Typical courses of study;

(*c*) Special kinds of elementary schools.

The first five subdivisions under (*b*) above are considered again in more detail, first with respect to grades 1 to 6, and second for grades 7 and 8. The aim of the report is primarily to present present conditions and tendencies.

The standing of the members of the committees and subcommittees is sufficient guaranty of the character of the report. Every teacher and supervisor of elementary mathematics, as well as prospective teachers and supervisors, will find the report especially valuable. The following are of especial interest.

In 50 of the leading cities, 15.26 per cent of all of the school time is devoted to arithmetic. During the past fifteen years the arithmetic course has been curtailed and enriched in 38 per cent of these cities. Supervisors of mathematics are very rare. The possible attitude of the pupil toward arithmetic is being taken into account more than formerly. This is a time of transition from a method of direct instruction (telling) and drill to more rational methods. "The tendency is to reduce the amount of home study except possibly in the upper grades and in the direction of utilizing the class period either for instruction on new topics or for vigorous drill." The detailed discussion of the methods for grades 1 to 6 is by Professor Henry Suzzallo, Teachers College, Columbia University, and is taken from a more extended article which appeared in the *Teachers College Record* for March, 1911.

The following recommendations are made for the preparation of teachers of elementary mathematics:

"1. A foundation in subject matter as a basis for the professional study of mathematics should include a minimum of one-half year of high-school arithmetic, one year of algebra, and one year of geometry.

"2. Exclusive of all courses in psychology, pedagogy, principles of teaching, general method, and history of education, a minimum of one-half year of professional study of arithmetic should be required to include the following:

"A. The teaching of elementary mathematics—'Special Method.'

(*a*) The special pedagogy of arithmetic.

1. The more elementary phases of the psychology of number.
2. Principles of general method applied to teaching arithmetic.
3. Educational values of arithmetic and the place of arithmetic in the general educational scheme.

(*b*) The organization of the general elementary school curriculum in arithmetic.

(*c*) Organization of typical units of subject-matter for presentation to appropriate grades.

(*d*) Development and writing of typical plans for teaching.

(*e*) The utilization of local and general economic studies for number applications.

(*f*) Observation and discussion of typical lessons in the grades showing concrete applications of the principles developed.

(*g*) The place of games and other recreational devices in grade number work.

"B. The historical development of the teaching of arithmetic, and the place and value of certain 'methods,' such as those of Pestalozzi and Grube."

In the report on special kinds of elementary schools there are some very interesting details concerning the actual arithmetic instruction in certain corporation industrial schools.

WALTER S. MONROE

# BOOKS RECEIVED

## AMERICAN BOOK CO., CHICAGO

*High-School Geography.* Physical and Economic. Parts I and II. By CHARLES R. DRYER. Cloth. Illustrated. Pp. 340. Price $1.20.

*Complete Business Arithmetic.* By GEORGE H. VAN TUYL. Cloth. Pp. 416. Price $1.00.

*Constructive Carpentry.* By CHARLES A. KING. Cloth. Illustrated. Pp. 176. Price $0.70.

*Our Common Friends and Foes.* By EDWIN ARTHUR TURNER. Cloth. Illustrated. Pp. 143. Price $0.30.

*Essentials of Health.* By JOHN C. WILLIS. Cloth. Illustrated. Pp. 302. Price $0.40.

*A First Reader for Foreigners.* By MARY F. SHARPE. Cloth. Illustrated. Pp. 170. Price $0.40.

*Golden Treasury Third Reader.* By CHARLES M. STEBBINS. Cloth. Illustrated. Pp. 256. Price $0.48.

*Indian Folk Tales.* By MARY F. NIXON-ROULET. Cloth. Illustrated. Pp. 192. Price $0.40.

*Little Stories of England.* By MAUDE BARROWS DUTTON. Cloth. Illustrated. Pp. 256. Price $0.40.

*Selections from Abraham Lincoln.* Edited by ANDREW S. DRAPER. Cloth. Pp. 162. Price $0.35.

*Lose Blätter.* By ERNA M. STOLTZE. Cloth. Pp. 127. Price $0.30.

*Cicero, Six Orations.* BISHOP-KING-HELM. Cloth. Pp. 109. Price $1.00.

## GINN & CO., CHICAGO

*The Adventures of Grillo.* By ERNEST CANDÈZE. Cloth. Illustrated. Pp. 225. Price $0.45.

## HOUGHTON MIFFLIN CO., BOSTON, MASS.

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[1] *Abbreviations.*—Atlan., Atlantic Monthly; Colum. Univ. Q., Columbia University Quarterly; Educa., Education; El. School T., Elementary School Teacher; English J., English Journal; J. of Educa. Psychol., Journal of Educational Psychology; Lit. D., Literary Digest; Pedagog. Sem., Pedagogical Seminary; Pop. Sci. Mo., Popular Science Monthly; Psychol. Clinic, Psychological Clinic; R. of Rs., Review of Reviews; School and Home Educa., School and Home Education; School R., School Review; Sci. Am., Scientific American.

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